

CLAIMS

WHAT IS CLAIMED:

1. A system controller, comprising:  
a processor;  
5 a memory; and  
a plurality of input/output (I/O) controllers each configurable with a plurality of I/O  
connections to another system controller, wherein each of the plurality of I/O  
controllers is further configurable with an I/O connection to each of one or more  
monitored devices.
- 10 2. The system controller of claim 1, wherein one of the plurality of I/O controllers  
includes an Ethernet controller.
- 15 3. The system controller of claim 2, wherein a second one of the plurality of I/O  
controllers includes an IIC controller.
4. The system controller of claim 1, wherein one of the plurality of I/O controllers  
includes an IIC controller.
- 20 5. The system controller of claim 1, wherein the processor executes software configured  
to monitor the one or more monitored components over the I/O connections to each of the  
one or more monitored devices.

6. The system controller of claim 5, wherein the software is further configured to update a configuration of at least one of the one or more monitored components in response to data received from the one or more monitored devices.

5 7. The system controller of claim 6, wherein the software is further configured to update the another system controller with the configuration of the at least one of the one or more monitored components.

10 8. The system controller of claim 1, further comprising:  
a bootable device.

15 9. The system controller of claim 8, wherein the bootable device is configured to store an operating system executable by the processor, wherein the bootable device is further configured to store software including instructions that configure the processor to monitor the one or more monitored devices.

10. A computer system, comprising:  
one or more sensors;  
a plurality of system controllers, each comprising:

20 a processor;

a memory; and

a plurality of input/output (I/O) controllers each configurable with a plurality of I/O connections to another of the plurality of system controllers, wherein each of

the plurality of I/O controllers is further configurable with an I/O connection to each of one or more sensors;

wherein the plurality of system controllers includes a primary system controller and a secondary system controller;

one or more processors;

one or more memories; and

one or more I/O devices;

wherein the primary system controller is configured to configure the one or more processors,

the one or more memories, and the one or more I/O devices into one or more domains,

wherein the primary system controller is further configured to update secondary system controller with a system configuration.

11. The computer system of claim 10, wherein one of the plurality of I/O controllers includes an Ethernet controller.

12. The computer system of claim 11, wherein a second one of the plurality of I/O controllers includes an IIC controller.

13. The computer system of claim 10, wherein one of the plurality of I/O controllers includes an IIC controller.

14. The of claim 10, wherein the processor comprised in each system controller executes software configured to monitor the one or more sensors over the I/O connections to each of the one or more sensors.

15. The computer system of claim 14, further comprising:  
a device associated with a sensor of the one or more sensors;  
wherein the software is further configured to update a configuration of the device associated  
5 with the sensor in response to data received from the sensor.

16. The computer system of claim 15, wherein the software is further configured to  
update the one or more secondary system controllers with the configuration of the device  
associated with the sensor.

17. The computer system of claim 15, further comprising:  
a memory associated with the device associated with the sensor, wherein the memory is  
configured to store configuration data for the device;  
wherein the software is further configured to update the memory associated with the device  
15 associated with the sensor over the I/O connection.

18. The computer system of claim 10, wherein each system controller further comprises:  
a bootable device.

19. The computer system of claim 18, wherein the bootable device of each respective  
system controller is configured to store an operating system executable by the processor  
comprised in the respective system controller, wherein the bootable device is further  
configured to store software including instructions that configure the processor comprised in  
the respective system controller to monitor the sensors.

20. A computer system, comprising:

a plurality of sensors;

a center plane;

one or more processor boards coupled to the center plane;

one or more input/output (I/O) boards coupled to the center plane; and

a plurality of system controllers each coupled to the center plane, the one or more processor boards, and the one or more I/O boards, wherein each of the plurality of system controllers includes a plurality of input/output (I/O) controllers each configurable with a plurality of I/O connections to another of the plurality of system controllers, wherein each of the plurality of I/O controllers is further configurable with an I/O connection to each of the plurality of sensors.

21. The computer system of claim 20, wherein each of the one or more processor boards includes at least one of the plurality of sensors.

22. The computer system of claim 20, wherein each of the one or more I/O boards includes at least one of the plurality of sensors.

23. The computer system of claim 20, wherein the center plane includes at least one of the plurality of sensors.

24. A method of operating a computer system, the method comprising:

booting a plurality of system controllers configured as a primary system controller and at least one secondary system controller;

booting one or more domains in the computer system from the primary system controller;  
updating a system configuration on the primary system controller; and  
updating the system configuration on the secondary system controller from the primary  
system controller.

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25. The method of claim 24, further comprising:  
monitoring the computer system from the primary system controller.

26. The method of claim 25, wherein monitoring the computer system from the primary  
system controller further comprises monitoring at least one of the one or more  
domains from the primary system controller.

27. The method of claim 25, further comprising:  
monitoring the computer system from the secondary system controller.

28. The method of claim 27, wherein monitoring the computer system from the secondary  
system controller comprises monitoring at least one of the one or more domains from  
the secondary system controller.

29. The method of claim 24, further comprising:  
providing a heartbeat signal from the primary system controller to the secondary system  
controller.

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30. The method of claim 29, wherein providing the heartbeat signal from the primary system controller to the secondary system controller comprises providing the heartbeat signal from the primary system controller to the secondary system controller at a predetermined interval.

31. The method of claim 29, further comprising:  
receiving the heartbeat signal from the primary system controller at the secondary system controller.

32. The method of claim 29, further comprising:  
failing to receive the heartbeat signal from the primary system controller at the secondary system controller;  
determining that the primary system controller is a failed primary system controller, in response to failing to receive the heartbeat signal from the primary system controller at the secondary system controller; and  
replacing the failed primary system controller with the secondary system controller as the primary system controller, in response to determining that the primary system controller is the failed primary system controller.

33. The method of claim 32, further comprising:  
removing the failed primary system controller; and  
replacing the failed primary system controller with a secondary system controller.

34. The method of claim 32, further comprising:  
monitoring the computer system from the primary system controller.

35. A computer readable medium encoded with instructions that, when executed by a  
computer system, performs a method for operating the computer system, the method  
comprising:

booting a plurality of system controllers configured as a primary system controller and at  
least one secondary system controller;

booting one or more domains in the computer system from the primary system controller;

updating a system configuration on the primary system controller; and

updating the system configuration on the secondary system controller from the primary  
system controller.

36. The computer readable medium of claim 35, the method further comprising:  
monitoring the computer system from the primary system controller.

37. The computer readable medium of claim 36, wherein monitoring the computer system  
from the primary system controller further comprises monitoring at least one of the one or  
more domains from the primary system controller.

38. The computer readable medium of claim 36, the method further comprising:  
monitoring the computer system from the secondary system controller.



39. The computer readable medium of claim 38, wherein monitoring the computer system from the secondary system controller comprises monitoring at least one of the one or more domains from the secondary system controller.

5 40. The computer readable medium of claim 35, the method further comprising:  
providing a heartbeat signal from the primary system controller to the secondary system controller.

10 41. The computer readable medium of claim 40, wherein providing the heartbeat signal from the primary system controller to the secondary system controller comprises providing the heartbeat signal from the primary system controller to the secondary system controller at a predetermined interval.

15 42. The computer readable medium of claim 40, the method further comprising:  
receiving the heartbeat signal from the primary system controller at the secondary system controller.

20 43. The computer readable medium of claim 40, the method further comprising:  
failing to receive the heartbeat signal from the primary system controller at the secondary system controller;  
determining that the primary system controller is a failed primary system controller, in response to failing to receive the heartbeat signal from the primary system controller at the secondary system controller; and

replacing the failed primary system controller with the secondary system controller as the primary system controller, in response to determining that the primary system controller is the failed primary system controller.

5 44. The computer readable medium of claim 43, the method further comprising:  
removing the failed primary system controller; and  
replacing the failed primary system controller with a secondary system controller.

10 45. The computer readable medium of claim 43, the method further comprising:  
monitoring the computer system from the primary system controller.

15 46. A computer system, comprising:  
a plurality of system controllers configured as a primary system controller and at least one  
secondary system controller;  
means for booting plurality of system controllers  
means for booting one or more domains in the computer system;  
means for updating a system configuration on the primary system controller; and  
means for updating the system configuration on the secondary system controller.

20 47. A method of operating a computer system, the method comprising:  
step for booting a plurality of system controllers configured as a primary system controller  
and at least one secondary system controller;  
step for booting one or more domains in the computer system from the primary system  
controller;

step for updating a system configuration on the primary system controller; and  
step for updating the system configuration on the secondary system controller from the  
primary system controller.